Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

GPO 123668

OCT 1 1938

Not for publication without
prior consent of this division.

REPORT FOR THE WEEK ENDING OCTOBER 1, 1938.

HAVRE:

The month of September, with a mean temperature of 65°, departure 10°, was the warmest on record. Precipitation totalled 0.60 inch, less than half normal. Wind movement was very light.

During the past week fall plowing was completed in the D.L.A. field, the soil being too dry for very satisfactory work. Winter wheat variety and nursery projects have been sown. Beans and safflowers were threshed. The October 1 date of seeding grass and winter wheat is now being made.

A subirrigated Ladak alfalfa meadow was harvested for seed by the farm department, and field E-1 has been marked out for contour strip cropping under the supervision of W. F. Long, S.C.S. Engineer.

Maximum temperature, 92°; minimum, 40°; precipitation, 0.02 inch.

MOCCASIN:

Continued dry weather has extended the total to 20 consecutive days without precipitation. Fall sown grain in stubble has not and no doubt will not germinate until moisture is received. The seasonal rainfall for this year is 10.64 inches compared to the 30-year average of 10.76 inches. To date, only two months, May and July, were above the station normal.

Work during the week has consisted of completing the cutting of bulk corn, digging potatoes, seeding winter wheat in the potato rotations, weighing cattle on pasture, hoeing weeds in shelterbelts, and storing of machinery.

Cattle will come off test, no doubt, this coming week unless moisture is received to make feed more palatable.

Maximum temperature, 88°; minimum, 41°; precipitation, none.

HUNTLEY:

Climatic conditions have favored the harvesting of late crops such as potatoes, sugar beets, third-crop hay, and alfalfa seed, but the continued drought has been something of a hardship on seedling wheat and has slowed up fall plowing. Winter wheat and rye on fallow land have made some growth during the last week, but on other preparations the stand continues to be rather patchy and the plants show drought. Precipitation for September was less than half the average, and maximum daily temperatures were above the average. No frost has occurred.

Field work has consisted of hauling hay, threshing alfalfa and clover seed, planting the smut nursery, burning out weeds from the fence rows, and odd jobs of seed cleaning.

Maximum temperature, 91°; minimum, 39°; precipitation, none.

SHERIDAN:

Temperatures did not average so high as last week, but still continued high for the season, about 11° above the station average for the period.

The remainder of the corn was husked. All corn stover, except a seed block south of the highway, and all late forage, except some of the latest maturing sorgo varieties and some grain sorghums cut for forage, were hauled, weighed, and shredded. It was necessary to take samples for weights from a few of the latest harvested plots, but most plots were fully cured and dry. Corn has been sacked and some hauled and weighed.

The month as a whole was the warmest yet recorded on the station for September, as well as the warmest recorded by the Sheridan Weather Bureau station, about 6° above the station average. Precipitation was next to the lightest recorded for September, there being only one very light shower. Wind movement was only about 3/4 the average for the month, and while evaporation was high, it was not so high as in the last 2 years previous. Precipitation since the 16th of July totals 0.39 inch, the largest fall at one time being 0.14 inch.

Conditions over the month were ideal for maturing grain sorghums, several varieties of that crop now being ripe enough for binding.

Wayne Austin was at the station the first of the week to supervise the fall seeding of grasses for the Soil Conservation Service.

Maximum temperature, 93°; minimum, 35° - no killing frost; precipitation, none; total for the month 0.07 inch.

DICKINSON:

September weather continued mild until the end of the month. The mean temperature of 61° was 5° above normal and 3° above September 1937. A maximum of 95° was recorded on September 23 and a minimum of 25° on September 18. Freezing temperature was recorded on only two mornings. Hardy vegetation remained green where any moisture was available in the soil for growth.

Precipitation amounted to only 0.10 of an inch, making this one of the driest Septembers on record. A heavy smoke haze from grass and brush fires in northeastern North Dakota, Minnesota, and Manitoba persisted nearly all week and reduced visibility to less than a mile at its worst.

Winter wheat and winter rye were seeded with a furrow drill on the rotations September 28 and 29. The soil was so dry that growth will not start until after a rain. Yogo winter wheat from Moccasin, Montana, was seeded. Recent unfavorable years have made it necessary to bring in winter wheat seed for rotations as well as varietal and nursery seedings.

Fall plowing on the rotations was finished today. The soil on most plots was very hard and dry and broke up rough and cloddy. The soil is about as dry as in the fall of 1935. Only low areas which were flooded in the torrential rain of July 2 have enough moisture for any appreciable plant growth. On such low areas crested wheatgrass now has a growth of 6 to 8 inches but on the typical soil no growth has started.

Dr. J. R. Parker, Bureau of Entomology, visited the station on September 28.

Maximum temperature, 89°; minimum, 34°; precipitation, none.

MANDAN:

Agronomy - During the past two weeks, the weather has been dry and warm for this time of year. On the 22nd the temperature was 94°. The lowest temperature since the 20th was 39°.

Corn shredding was completed early in the week. The corn was very dry. The yields ranged from around 20 bushels per acre to 38 bushels. All corn was badly infested with smut.

Winter rye is up to a good stand.

The total precipitation for the month of September was 1.25 inches, which is slightly below normal.

Maximum temperature, 91°; minimum, 40°; precipitation, none. (Sept. 25 to Oct. 1 incl.)

Cooperative Grazing Experiment - There is an abundance of grass in all pastures, yet the steer gains for September were below those of 1937 for the same month, and the seasonal gains are less.

The steers on crested wheatgrass made the best gains for September. They grazed new growth of the grass since the middle of the month. They had access to native pasture but preferred the new crested wheatgrass.

Gains of yearling steers in the various pastures for September and for the season:

Pasture (acres)	No. steers	Gain per head (lbs)	
		September	130 days
100	10	23.0	231.0
70	10	23.0	235.0
50	10	18.5	216.0
30	10	17.0	211.0
70 (rotation)	14	20.0	220.7
12.5 Crested wheatgrass	10/1	31.5	204.5/2

1/ 4 head from 7-acre crested wheatgrass
2/ Average for season

Horticulture - Potatoes were harvested on September 29 and 30. Fair yields were obtained, but a considerable amount of scab was present. Irish Cobbler and Chippawah were the highest yielders. Close spacing in the row resulted in higher yields than wide spacing.

A number of trees in the breeding blocks have been pulled out, with the object of running the rows across the slope rather than up and down the slope. Also many trees which have borne fruit and appear to be of no value were pulled out. Fall notes on stands and growth are being taken.

Squash, pumpkin, and melons were harvested during the week. The quality has been found to be excellent and the yields exceptionally good this year. As long as the warm weather keeps up, vegetables intended for winter storage are still in the field.

Flowerbeds on the grounds were but slightly damaged by the low temperatures of the last week and still present a very good appearance.

Late perennial asters and chrysanthemums are commencing to bloom and add an extra bit of color to the landscape.

Tulips, hyacinths, and narcissus species have arrived and are to be added to the general plantings next week.

Arboriculture - The taking of fall notes in the various tree blocks has been completed. An additional quantity of Russian olive seed has been collected, and red cedar seed is being collected at the present time. This latter seed is being collected somewhat green as birds are rapidly destroying the crop. Transplant evergreen stock has been irrigated during the week, which is the first time this year that water has been applied. This should enable them to go through the winter without serious "browning" or killing back of terminal buds, which frequently happens when they go into the winter in dry condition.

Visitors for the week included Dr. F. L. Mulford and Dr. A. C. Hildreth, Horticultural Investigations; and R. F. Arnold, Dominion Forest Nursery Station, Sutherland, Sask.

BELLE FOURCHE:

Clear, warm weather prevailed throughout the week, but the sun was partially obscured by a heavy haze of smoke during the last 4 days. The smoke, originating from forest fires in Canada and peat fires in Minnesota, reduced visibility to considerably less than a mile on the evening of September 28 and morning of September 29.

The drought, commencing June 1, continues unbroken, and the total precipitation from June to September, inclusive, was 4.21 inches less than the 30-year average for the 4-month period. The precipitation for September was 0.87 inch, which is 0.49 inch less than the average for the month. The mean temperature for September was 5° above normal, but the wind movement and evaporation were somewhat below average.

ARCHER:

The weather during the week was clear and warm with cool nights and no frost. Soil moisture is sufficient, and the fields where small grains were grown are green with volunteer growth. Pasture and range grasses are green, and Sudan grass has made sufficient growth for good pasture. Winter cereals are making a good growth, and most of the corn is mature. There remains one more day of corn harvesting at the station. The millet field was cut and is being raked to-day.

Precipitation in September was 5.29 inches, or 4.12 inches more than the 25-year average. Otherwise the precipitation for the year is but slightly above the average.

Director W. L. Quayle of the University of Wyoming, and Dr. John H. Martin and A. F. Swanson of the Division of Cereal Crops and Diseases were station visitors. Ed Newcomer and his agricultural class from the Burns High School judged dairy cattle and sheep at the station September 26.

Maximum temperature, 82°; minimum, 41°; precipitation, trace.

NORTH PLATTE:

This has been another week of summer weather with no precipitation . Rainfall for the 6 months growing season totaled 20.23 inches or 5.44 inches above the normal. The precipitation for April and May was above normal, which caused a rank growth of small grain, and nearly all moisture was used as fast as it fell. A drought period began early in June and caused the cereal crops to disintegrate rapidly. They would have been nearly a complete failure but were partly saved by a good rain which fell the 18th of June. The only beneficial rains during the summer after this date fell early in July. During the first two weeks of September 4.56 inches of precipitation were recorded; this being the total for the month or 3.23 inches above normal. The corn made good early growth and produced a normal vegetation, but hot weather and grasshoppers accompanied the drought of August which resulted in a marked decrease in the good prospects of a corn crop. The sorghums have made a good showing, and there are several fields in this area which will produce from 20 to 30 bushels of grain.

The fall soil sampling was started this week, and most fallow plots showed a good supply of moisture in the 6th foot. Deeper samplings have not been made as yet to determine the total extent of moisture in the soil. Three and four feet of moisture were found in the stubble plots. Wheat has made a record for the time elapsing between seeding and emergence, and the stand is 100 percent.

The stubble plots which were not seeded this fall have been rod weeded to prevent loss of moisture by volunteer growth and weeds. The sorgo plots were mowed during the week.

The station held its fall feeders' day and was host to about 400 farmers and ranchers. Visiting speakers included Chancellor C. S. Boucher, Dean W. W. Burr, Prof. R. R. Thalman, and Prof. W. J. Loeffel of the University. Other visitors included Dr. John Martin, A. F. Swanson, and Joe Brandon.

Maximum temperature, 89°; minimum, 48°; precipitation, none.

AKRON:

The weather has been clear and mild, very favorable for field work. Moisture is again badly needed in the section immediately east of Akron. Husking of the corn from the cereal variety land was started. The grain yield will run from possibly 1 to 3 bushels per acre on this small grain stubble land preparation. Winter wheat stands continue to improve on the rotation plots, but it does not now appear that there will be fully emerged stands on the cornland and stubble preparations until more surface moisture has been received.

Dr. John H. Martin and Mr. A. F. Swanson arrived Tuesday and were met here by Dr. D. W. Robertson and J. J. Curtis for an inspection of the sorghums experimental work.

Maximum temperature, 87°; minimum, 45°; precipitation, none.

COLBY:

The weather continues very warm and dry. For the most part it has been calm also. Sorghums are drying and ripening in the sun. Wheat that is up is making excellent growth. In the drier fields wheat is not coming very well because of a drying out of the seedbed. Where there is a heavy growth of volunteer wheat which came up early it is beginning to show signs of needing moisture.

Dean Call of the Kansas State College visited the station Thursday.

Maximum temperature, 92°; minimum, 46°; precipitation, none.

Precipitation for September, 0.82 inch.

HAYS:

The weather has been clear, calm and warm. Sorghum crops continue to develop slowly.

Final preparation for seeding of wheat plots was made, and the date for starting the drill was set for Monday the 26th. However, another thick stand of volunteer had emerged by Monday morning. Instead of starting the drill, a rod weeder was put in operation Monday morning for the destruction of the volunteer. Practically all the small grain plots in preparation for wheat were again surface tilled. Drilling of wheat was commenced Tuesday and will be finished today.

Wheat drills have been in operation all week on the commercial fields of the station. In this locality 95 percent of the wheat has been seeded, and most of it is up to a good stand.

Harvesting of sorghums for silage and stover on the commercial fields of the Experiment Station was commenced during the week.

Visitors during the week included L. E. Call, Director, L. W. Kephart, Division of Cereal Crops and Diseases, and T. F. Yost, State Weed Supervisor.

Maximum temperature, 98°; minimum, 52°; precipitation, none.

GARDEN CITY:

Rainfall this week amounted to 0.10 inch, which brought the total for September up to 4.43 inches. This is the greatest September precipitation since 1923. The normal for the month is 1.71 inches. Total precipitation thus far this year is 14.68 inches, while the normal is 14.92 inches.

The wheat on the station and over this section is in good condition, and there will probably be considerable livestock shipped in this fall for pasturing. Very little sorghum grain will be produced, but there is considerable feed, and there should be sufficient stubble left to aid in checking the dust this winter and next spring.

Field work consisted of taking soil moisture samples on wheat and milo plots.

Approximately 325 farmers and business men turned out for Field Day on Monday, and the Vocational Agriculture class from Scott City visited the station on Thursday.

Official visitors were L. E. Call, Director, Kansas State College; Lester McCoy, Garden City, and E. F. Beckner, Colby, Kansas, members of Board of Regents; and J. H. Martin, and A. F. Swanson, Cereal Crops and Diseases.

Maximum temperature, 94°; minimum, 51°; precipitation, 0.10 inch.

TUCUMCARI:

Dry, warm, calm weather continued throughout the week. Station work included harvesting of early sorghums, Sudan grass, cowpeas, and beans, and threshing increase Sudan grass for seed.

Early sorghums will be very light in yield due to drought and severe bird injury. The July date of planting will exceed earlier plantings, but the response of the late plots to the early September showers was short-lived and at present all require rain.

Maximum temperature, 91°; minimum, 53°. Precipitation of 2.06 inches the first half of September brought the total for the year to date to 9.70 inches. During the 93-day period May 31 to Sept. 1 only 2.72 inches was received.

DALHART:

The weather continued mild and open during the week. The month of September furnished a 7 day rainy spell starting with the first of the month; the balance of the month was nearly ideal early fall weather. The average wind velocity was the lowest ever recorded for the month, and there were no days with high wind movement. A maximum temperature of 90° was recorded on the first day of the month; in only one other year (1923) has as low or lower maximum temperature been recorded. The minimum temperature for the month was 46°; in only one other year (1925) has this high a minimum temperature been recorded. Rainfall recorded during the first seven days of the month was 4.12 inches; this was the only precipitation during the month, but this ranked September 1938 as the third wettest September on record.

Sorghum crops have continued growth during the week. The only heads which can mature grain are those that emerged prior to the September rains. At no time have the sorghum plots on the station ever presented a more uneven appearance than they do now. This is attributed to the low annual precipitation prior to September and the uneven response to those rains.

A few of the cowpea plots and some of the Sudan grass increase plots were harvested. The former will yield a low amount of hay, but the Sudan grass will give one of the largest single cuttings of hay ever harvested here.

Winter wheat and winter rye continue to make good growth.

Maximum temperature, 89°; minimum, 48°; precipitation, none.

BIG SPRING:

Dry, hot weather has prevailed again during the past week; this felt more like midsummer than early fall. Rainfall for August and September totalled 0.56 inch as compared with a normal of 4.43 inches for the same period. September with an average of 2.45 inches is normally the second best month of the year for precipitation, but this year only 0.11 inch was recorded.

Station work has consisted of harvesting sorghums and picking cotton. A large number of milo and kafir plots in the rotations and varieties were headed, and some of the early maturing cotton varieties were picked. An increase field of hegari was also harvested.

Maximum temperature, 95°; minimum, 50°; precipitation, none.

LAWTON:

The past week has been just another period of hot, dry weather. Farm operations with the exception of cotton picking have been at a standstill for several weeks. Good seedbeds cannot be prepared and but little wheat has been seeded in dry soil to date. A heavy loss of grain occurred at harvest, and this unemerged crop complicates fall seeding plans.

The mean temperature of 77° for September was 3° above normal, and the monthly rainfall of 1.04 inches was 2.15 inches below normal. The deficiency for the past four months amounts to 6.59 inches. A maximum temperature of 100° was recorded Oct. 1.

WOODWARD:

Only a trace of rain was received during the week. The weather continued hot during the day and cool at night, as indicated by an average temperature range of 35°. The precipitation for September amounted to 2.12 inches, bringing the total since April 1 to 24.32 inches. These may be compared with the 25-year averages of 2.75 inches for September and 16.01 inches for the growing season. August and September were the only months during the growing season that were below normal in precipitation.

All sorgo plots were harvested except F and G, which lacked in maturity because they had been replanted following the torrential rain in the spring.

Jujubes were harvested during the week with yields above average.

Parvifolia elms are flowering profusely, but it is doubtful if the seed will mature before frost.

Close drilled Sudan grass on the new addition had reached a height of 3 to 4 feet and was heading rapidly when it was mowed to keep it from maturing seed and to force a more vigorous basal growth. The stubble was left at a height of 10 inches, and none of the hay was removed. The hay, high stubble, and aftermath are expected to help materially in controlling run-off and wind and water erosion and in reducing surface evaporation in preparation for pasture grass seedings next year.

R. E. Karper, College Station, Texas; J. R. Quinby and J. C. Stephens, Chillicothe Station, Texas; Mr. Hyer, District Extension Agent, Guymon, Okla.; and W. J. Canover, District Extension Agent, Pratt, Kansas were Station visitors.
Maximum temperature, 98°; minimum, 49°; precipitation, trace.

PENDLETON:

Precipitation during September amounted to only 0.23 inch. A few fields have been seeded in the dust; most years this is not a good practice as weeds and ragged stands often reduce yields. Most farmers prefer to wait until late October or November before they will seed in the dust.

This is the first year that we have secured a seed crop of soybeans. The vine growth was slight and the yields were low. Usually a frost in September kills the beans before they are mature. Some of the lima beans are still in bloom and a few vines have set pods.
Maximum temperature, 82°; minimum, 38°; precipitation, 0.11 inch.

RECD
LIBRARY
OCT 25 1938
BUREAU OF
PLANT INDUSTRY

WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

GPO 123668
OCT 8 1938

Not for publication without
prior consent of this division.

REPORT FOR THE WEEK ENDING OCTOBER 8, 1938

HAVRE:

Cooler and more nearly seasonal weather prevailed. There was considerable cloudiness with some fog and light precipitation. The first frost occurred on the morning of October 7, the 1938 frost-free period being 140 days in length, 12 days longer than normal.

Cereal nursery threshing in the seedhouse comprised the principal activity in experimental agronomy. The farm department was engaged in repairing fence lines around commercial fields. Construction of a new service bridge across Beaver Creek by a W.P.A. crew was about completed. With excellent fall pasture, the beef cattle at the mountain lease continue in very good condition.

Maximum temperature, 81°; minimum, 30°; precipitation, 0.21 inch.

JUDITH BASIN:

Fixing fence, remodeling garage, and the weighing of cattle from the pasture tests have kept the station employees busy during the week. The corn that was cut last week still remains to be hauled in.

The weather this week has been quite different from the ideal harvest weather we enjoyed earlier. The week has been very cloudy and foggy with only an occasional glimpse of the sun. Some of the outlaying districts have reported nice showers.

Maximum temperature, 78°; minimum, 35°; precipitation, 0.07 inch.

HUNTLEY:

Weather during the week was rather damp and chilly, with cloudy skies and a light fog over the valley for part of nearly every day. No frost has yet been recorded this fall, which delay is closely approaching a record for this station. Farming operations on the benchlands have been halted for the time being, as the soil is too dry for plowing and further seeding of stubble lands is being held up until rain falls. On most farms the winter wheat sown on fallow is up to good stands and is making a satisfactory growth. Wheat sown on stubble early in the season generally shows thin stands of weak plants.

On the plots, winter wheat and rye on fallow are holding their own but the thin stands on other treatments show some deterioration. Much of the seed is still unsprouted, some has sprouted and died, and some of the seedlings which have emerged are getting very dry. Crested wheatgrass is making a good fall growth and would afford considerable pasture on some fields.

Maximum temperature, 81°; minimum, 35°; precipitation, trace.

SHERIDAN:

Partly cloudy weather with temperatures somewhat lower than during the previous two weeks prevailed over the most of the week. Temperatures still continue higher than any previously recorded on the station for the same period of the year.

The most of the grain sorghum varieties were harvested the first of the week, those left to mature further, being mostly in the second planting. Growth and development of some varieties was much better in the second planting (6/16) than in the first (6/6), with very little difference in the time of maturity of some of them.

Fall grain was sown, but germination cannot be expected until there is some precipitation. Wheat was sown in Rot. 37 without digging the potatoes, sampling with the fork showing no potatoes worth digging.

Maximum temperature, 86°; minimum, 38°; precipitation, trace.

DICKINSON:

Warm days the fore part of the week were followed by light rain and somewhat lower temperature. This precipitation was not enough to germinate winter wheat and rye but freshened vegetation where anything remains green.

Corn varieties were husked and weighed. Yields were light, as many of the ears were only partically filled as a result of grasshopper damage to the silk.

Soil was hauled to fill in where the heavy rain of July 2, 1938, had washed a few plots badly.

Visitors included H. Earl Hodgson, Farm Information Agent, NDAC.

Maximum temperature, 88°; minimum, 41°; precipitation, 0.20 inch.

MANDAN:

Agronomy - Weather during most of the past week was cooler, with some cloudiness.

Top soil has dried out, and the fall growth of crested wheatgrass has dried up in most places in the field.

Maximum temperature, 86°; minimum, 36°; precipitation, 0.02 inch.

Cooperative Grazing Experiment - Steers appear to be doing well on their pastures. They all have plenty of mature feed at present.

Horticulture - Plum and crabapple seed is now being washed out. A good supply of each is on hand for nursery planting. Brush and Russian thistles are being hauled and burned.

Frost still holds off, and a few vegetable varieties are yet to be harvested. Although there is but little growth, keeping qualities will be improved by delayed winter storage for such vegetables as celery, late cabbage, and all root crops.

Trees and shrubs on the station grounds have taken on their fall coloring and present a more complete color display than in an average year, when there is often a very severe frost killing the foliage before it colors up.

Hybrid rugosas are blooming better this fall than ever before. Late perennial asters, gaillardia, and hardy chrysanthemums are in full bloom at the present time, and they are unusually gorgeous this season.

Arboriculture - Approximately 150 pounds of redcedar seed has been collected during the week from trees in the testing block of that species. The seed appears to be of better quality than usual. Small lister furrows have been run between rows in the ash nursery to prevent soil blowing during the winter and to collect some of the run-off moisture next spring.

The Russian olive and Tatarian maple hedges along the east side of field L have been pulled to reduce competition on the adjacent nursery field. During the last three years nothing has been grown within 70 feet of the olive hedge and within about 50 feet of the maple hedge. Foliage on nursery stock is still green and freezing temperatures to put the stock in dormant condition would be welcome just now.

BELLE FOURCHE:

The fore part of the week was abnormally warm, and daily minimum temperatures were relatively high throughout the week, ranging from 14° to 21° above freezing. The last four days were cool and unsettled. Foggy weather prevailed for a couple of days, and occasional light drizzling rains were received, but the precipitation was practically nothing.

Wheat and winter rye were finally seeded in dry soil on rotation plots. Cultivated land is in a much more dangerous blow condition than usual at this time of the year, and corn ground and sorgo ground are too dry and hard beneath the shallow layer of loose top soil to permit duckfooting.

Maximum temperature, 91°; minimum, 46°; precipitation, 0.01 inch.

ARCHER:

The weather during the week ending October 8 was threatening. Precipitation was recorded during 6 days, but the total was only 0.32 inch. The mild weather was favorable for crop growth. Winter cereals and volunteer spring crops are in excellent condition for pasturing. The Northwest poplars have lost their leaves. The leaves of boxelders have turned yellow as have also the leaves of a number of the ash trees.

Work at the station consisted of starting the lamb corn pasture experiment, going through the formality of digging potatoes, and hauling millet hay.

Maximum temperature, 79°; minimum, 41°; precipitation, 0.32 inch.

NORTH PLATTE:

Warm weather continued throughout the week with moderate to strong southerly winds the last three days. No precipitation has been recorded during the past three weeks. The winter wheat has made a good growth, and there is ample moisture in the soil to carry it through the winter in good condition, in most of the plots. The drilled sorghum and Early Kalo plots were harvested during the week. The Sudan grass seeded in the roadways has made a good growth and has been mowed for hay. Harvesting of the bulk field of Early Kalo with a wagon box header was started the end of the week. One side of this field was seeded three days earlier than the rest, and the stalks are breaking over due to the "weak neck" disease.

Maximum temperature, 90°; minimum, 45°; precipitation, none.

AKRON:

September passed with but 0.73 inch of precipitation compared to an established average of 1.47. This marked the fourth consecutive month of about half average precipitation. There has been no frost as yet, and sorghum sucker heads produced following the rainfall the first of the month are in hard dough stage.

Sorghum harvesting has occupied attention, also bean pulling. Beans have now been practically all harvested. Highland kafir in increase field is now fully ripe.

Warren Leonard and J. J. Curtis with helpers arrived Saturday and harvested the station corn experiments other than the rotation plots.

Maximum temperature, 88°; minimum, 40°; precipitation, none.

COLBY:

The weather continues dry and warm. The maximum temperatures have been in the nineties most of the week. Only slightly cooler prevailed yesterday and today. It has been windy nearly every day, but there has not been any appreciable soil blowing. No precipitation has fallen since the middle of September. Much of the wheat sown since the middle of September came up only in spots, even on good summer fallow ground in many instances. The wheat that is up on summer fallow ground is making excellent growth. Most of the volunteer wheat that came up early is drying.

The milo on the plots was headed this week. The yield will not be very heavy even on the fallow plots. The grain is well matured but not of high quality. It was damaged considerably by the dry, hot weather in August and by disease.

Maximum temperature, 94°; minimum, 51°; precipitation, none.

HAYS:

Wheat seeded on the project on early tilled plots is now up to a good stand. On late tilled plots it is thin, and much of the seed will not germinate until after it rains. On corn stubble plots the stand is not so good as on early tilled small grain stubble plots. Some of the seed lies in dry soil. On sorghum stubble plots and in sorghum stalk plots none of the wheat will germinate until after it rains. Early seeded wheat fields in this area look green from the road and are very attractive.

Rye on the green manure plots which was seeded earlier than the wheat is making considerable growth and looks fine.

The sorghum crops are gradually maturing some of the late developed seed. The top leaves are drying-up due to the dry weather.

Pastures are brown. Some of the trees are beginning to drop leaves-- perhaps due more to drought than to low temperatures. No frost has occurred to date.

Work during the week has consisted wholly of collection of soil samples for moisture and nitrate determinations.

Maximum temperature, 96°; minimum, 50°; precipitation, none.

GARDEN CITY:

There was no precipitation this week, and the crops are showing the need of water. There has been considerably more wind this week than there has been for some time. Dust blew on two days, and some of it was local.

Maximum temperature, 92°; minimum, 51°; precipitation, none.

TUCUMCARI:

Cool, cloudy, threatening weather the past few days resulted in only 0.06 inch of precipitation, with the deficiency for the year reaching 4.32 inches. Maximum temperatures have dropped rapidly, but the low readings have remained above 50°.

Work has consisted of completion of stalk counting; harvesting and threshing of beans, cowpeas, and broomcorn; and heading of cooperative sorghum plots.

Sorghums are remaining green so tenaciously that it appears frost may arrive before many plots fully mature. Harvesting will progress as rapidly as crop maturity permits, but apparently many plots planted in early June will not mature until near the close of this month.

Livestock are in excellent condition, although grass is relatively short. Grazing conditions have been favorable, but winter prospects are less favorable, with row crops very poor and range grass short. Wheat on the plains is reported in good condition.

Maximum temperature, 88°; minimum, 53°; precipitation, 0.06 inch.

DALHART:

The only change in the exceptionally fine fall weather which has prevailed for four weeks was in the last two days of this week. They were windy, whereas the other days for a month had been noticeably quiet, mild, and pleasant.

Work consisted chiefly of harvesting Sudan grass and the rest of the cowpeas and soybeans, completing the drilling of winter rye (after cowpeas), picking of jujubes, and pruning this year's dead wood from tree plantings.

Maximum temperature, 89°; minimum, 46°; precipitation, trace. (A few intermittent showers since the morning reading have totalled 0.10 inch of rain by noon.)

BIG SPRING:

Ideal harvesting weather prevailed during the past week, which gave the farmers an opportunity to cut a large amount of feed. A good rain would aid materially in developing the late cotton bolls; it is also needed for seeding wheat for pastures, in fact it was needed a month ago for this purpose. Cotton picking in this section is getting under full headway rather slowly; normally at this time of the season the gins are running night and day, but now they are running only about half time during the day.

Winter wheat was dry planted in the orchard, vineyard, evergreen planting, station roadways, and other vacant spots, hoping that enough rain will be received soon to bring it up. These places are all in condition to blow unless a cover can be obtained for them soon. Other work has consisted of picking cotton in the varieties, and heading milo in the rotations and grain sorghum varieties.

Maximum temperature, 94°; minimum, 53°; precipitation, none.

WOODWARD:

This has been another week of cool nights and hot days. There has been no measurable precipitation since September 12. The hot weather is no doubt in favor of some of the replanted sorghums, as they are going to be rushed to mature seed before frost. They need more moisture to prevent firing and continued warm weather to hasten maturity.

Bulk seed of the following grasses has been collected from neighboring ranches for revegetation purposes: Western wheatgrass (Agropyron smithii), Side-oats grama (Bouteloua curtipendula), Hairy grama (Bouteloua hirsuta), Switch grass (Panicum virgatum), and Giant reedgrass (Calamovilfa gigantea). Additional species will be gathered as they mature. Most grasses on the station are drying up unusually early due to lack of rain.

General field work consisted of heading field kafir, heading kafir and milo from plots, mowing Sudan grass on new addition, taking soil moisture samples, picking tomatoes, and stacking sowed-feed.

Ed Roberts in charge of S.C.S. and extension programs in eastern Oklahoma, H. C. Hyer in charge of S.C.S. and extension in western Oklahoma, J. M. Ives, District Extension Agent, and G. K. Turpenin in charge of State Resettlement were station visitors accompanied by a group of farmers, ranchers, and county agents.

Maximum temperature, 98°; minimum, 54°; precipitation, none.

PENDLETON:

Comparatively dry weather still prevails in this section. Good rains were received in some of the counties west of the section, and conditions are reported to be the best in a long period of years. Corn is being harvested on the station at present, and indications are that the yields will be above average.

Maximum temperature, 82°; minimum, 38°; precipitation, 0.37 inch.

LAWTON:

Maximum temperatures during the period October 2 to 8 ranged from 87° to 99°. There was no change in moisture conditions, and farmers are "dusting in" wheat and barley where the seed beds are not too rough. Emergence has occurred on an occasional early seeded field, and the young seedlings are in precarious condition.

Cotton ginners in Comanche County estimate the 1938 crop at substantially less than in 1937 when only 11,000 bales were produced. Picking has been completed on a good many fields, but considerable cotton remains to be harvested on late planted creek bottom fields. Staple and grade are superior to that of 1937.

NOTE:

The station reports of this division will be made and issued monthly during the months of November, December, January, February, and March. The last report in October 1938 should cover October 31. Following the report for April 1 - 8, 1939, the weekly issue will be resumed.

RECD
LIBRARY
DEC 5 - 1938
BUREAU
OF
PLANT INDUSTRY

WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

GPO 123668

MAR 16 1939

Not for publication without
prior consent of this division.

REPORT FOR THE WEEK ENDING OCTOBER 15, 1938

HAVRE:

Several light showers occurred, but in general the weather was favorable for out-of-door activities.

Threshing cereal nurseries in the seedhouse was practically completed. Corn stover in the D.L.A. field and in other agronomy projects has been weighed. The farm department threshed registered Ladak alfalfa seed and is now engaged in plowing bottom land fields.

The calves in the beef cattle experimental herd were weaned at the Bear Paw lease and trucked to the station, the steer calves being consigned to the State College for winter feeding. Two cars of drys and culls were also cut out for market.

Maximum temperature, 70°; minimum, 28°; precipitation, 0.34 inch.

JUDITH BASIN:

After a lengthy period of extremely dry conditions this week brought 0.44 inch of precipitation. The first snow on the 15th, with a cover of about 3 inches, contained 0.27 inch of water. Although frosts have been reported in surrounding areas, the first at the station occurred on the 14th. On two days during the week the wind velocity was high and there was some soil movement from the large fallow fields in this section. Conditions should be favorable for late grass seedings to be made at the end of this month.

The work during the week has consisted of measuring and making stand counts of the shelterbelt plantings, cleaning some grass seed, and repairing buildings.

Maximum temperature, 67°; minimum, 31°; precipitation, 0.44 inch.

HUNTLEY:

Another week without frost has passed, thus extending our record for delayed fall frost by 4 days, to date. Soil and climatic conditions continue to be favorable for field work, and farmers are bringing their seasonal work to a close earlier than usual. Cloudy skies and light sprinkles of rain on three days of the week stimulated a little interest in further planting of winter wheat. Cutting of wild hay which has made a good growth this year is being done on some of the benchland farms. This material is well cured on the ground and is being carried to the stack directly behind the mower. It has been several years since stockmen-farmers in this section have had enough growth of this type of feed to make it worth while to cut it.

Winter wheat on fallow is now stooled out so that it covers the the ground between the drill rows. Wheat sown on other tillage methods is still in very poor condition.

Field work on the plots has consisted of reshocking some of the corn, hauling off and stacking the last of the forage cuttings, and applying manure to the designated rotations.

Maximum temperature, 78°; minimum, 34°; precipitation, 0.23 inch.

SHERIDAN:

With the exception of one day the week was comparatively cool, although temperatures still continue above the average for the season.

Crested wheatgrass was sown in some miscellaneous blocks, forage sorghums were hauled and weighed, and the remainder of the grain sorghums was harvested.

Maximum temperature, 82°; minimum, 32° - no frost or freezing of tender vegetation; precipitation, trace.

DICKINSON:

A light shower on October 10 and mild temperature provided pleasant conditions for field work through the week. Since the killing frost on September 18 nearly four weeks has passed with growing temperatures but with the soil so dry that growth resulted only in low or favored areas. Where water is available vegetation is still growing.

The gardens were manured and plowed. Trees near the buildings are being watered wherever possible.

E. G. Davis, Bureau of Entomology, Bozeman, visited the station in making a survey of grasshopper eggs on an area which is being surveyed four times a year for hoppers and eggs. At the start of the survey fewer egg pods were found than at this time last year.

Maximum temperature, 78°; minimum, 29°; precipitation, 0.12 inch.

MANDAN:

Agronomy - Temperatures during the past week have been lower, but are still above normal for this time of year.

Soil is very dry on top, as no rain of any value has fallen since early in September.

Maximum temperature, 81°; minimum, 34°; precipitation, trace.

Cooperative Grazing Experiment - The grazing experiment was closed during the week. The period on pasture was 145 days.

All native pastures produced an abundance of feed during the season, and at no time was it necessary for any of the cattle to graze a short pasture. Yet the final results will show that the steers in the larger pastures made the highest gains. The gains made were less than those of 1937.

Weather during the first half of October was very nice and the steers showed a gain for this period.

Horticulture - The soil remains rather dry as the fruit plantings enter the fall period; a good rain would be beneficial in preventing excessive drying out in late fall and early spring. There has been no frost severe enough to kill the leaves on nursery stock, and it may be necessary to dig the trees with the leaves on. This may be done next week.

Work during the week comprised hauling brush and burning weeds in orchard plots, and final cultivation and duck-footing of fallow plots. Plum and apple seed for next year's budding work and field selections, were cleaned and stratified. About 15 pounds of apple seed and 200 pounds of plum seed were secured.

New hotbeds for nursery propagation were constructed, providing a much needed improvement in this department of the work.

Late vegetables were harvested and stored, and beds for fall bulb planting were prepared.

Hardy chrysanthemums of varieties introduced by the U.S. Department of Agriculture are blooming splendidly at the present time. About 15 varieties, comprising a color range of white, pink, purple, yellow, bronze, lavender, magenta, and etc. are growing on the Station grounds.

Arboriculture - Brush and stumps pulled last week have been hauled off. Plowing of nursery stock commenced the middle of the week as an aid to hasten the dropping of leaves. Ash seedlings may possibly be ready for pulling early next week. All other stock is still in green condition and continues to put on growth.

Pulp has been removed from the red cedar seed collected last week. A quantity of Bad Lands cedar seed collected last year is now being planted in seed beds.

Prof. E. J. Thompson, N. Dak. Agricultural College, was here on Friday to grade the cooperative grazing experiment steers in expectation of their being shipped next week.

ARCHER:

The weather during the week ending October 15 was mild with high winds October 12 and 13. During the early morning hours of October 9 the temperature dropped to 32° and everything was covered with frost. Such plants as tomatoes and cucumbers were killed, but squash leaves were only partly killed.

Cereal growth and grasses are green. The trees and shrubs generally are taking on autumn colors. The leaves of the wild currants are a beautiful dark red. Along the driveway the Chinese elms, which are a dark green, are surrounded by an array of colorful petunia blossoms. The California poppies and sweet peas are also in full bloom.

Station activities consisted of hauling millet hay and husking corn.

Maximum temperature, 74°; minimum, 32°; precipitation, trace.

NORTH PLATTE:

Warm fall weather continued throughout the week. A trace of precipitation fell the first of the week, this being the only moisture recorded during the past 4 weeks. The winter wheat continues to look good, but cooler weather would help check its growth and conserve moisture in the soil. The bulk field of Early Kalo was harvested during the week and piled in ricks to dry. A little fourth cutting alfalfa was put up this week, and some alfalfa has been threshed for seed. Pastures are drying and curing, there is very little available moisture in sod.

Maximum temperature, 82°; minimum, 40°; precipitation, trace.

AKRON:

No frost as yet, which has assured a long late fall. It has been such a season as to enable very late maturing grain sorghums to ripen nicely. No rain, either, and this is proving very severe on emerging and emerged winter wheat, especially on corn and stubble land where there was but a meager supply of soil moisture at seeding time.

Rotation corn plot husking was completed by the week end. Twenty nine plots averaged 1.3 bushels of grain and 763 pounds of stover per acre. Forage and grain sorghum varieties were harvested, and also the 10-acre plot of Highland kafir across the railroad. This Highland was rated a very poor 10 to 15 percent stand this spring but was not reseeded because the possible date promised to be too late. The harvest-time head cover appeared to be 35 to 40 percent. Plants produced two to six tillers, which though later were able to mature. This is a growth characteristic which has not heretofore been investigated so fully and may prove valuable to this variety in this high altitude region where emerged stands are always questionable, especially on the hard lands. Harvesting, however, was very severe on the row-crop binder, running free then chugging into three to seven of these sturdy plants all in one clump. Six to eight rows were left standing to observe their behavior during the remainder of the fall. Practically all the dry beans have now been harvested.

Mr. R. E. Ford, State Extension Forester, and party of Federal and State Foresters visited the station forestry and windbreak plantings Sunday, October 2. William Timpke brought his Wray High School agricultural class to the station last Wednesday to study grain sorghum varieties and forestry and windbreak plantings and trees.

Maximum temperature, 80°; minimum, 36°; precipitation, 0.03 inch.

COLBY:

The weather continues dry. The first three days were blustery and threatening, but almost no moisture fell. The days have been unusually warm, but the nights have been fairly cool. There has been no frost. Wheat is growing nicely where it is on summer fallow ground and has moisture. Volunteer wheat and that on crop land is gradually drying up. The sorghums are practically all ripe or dried up.

The feterita, Sumac sorgo, and kafir were cut this week. The feterita was ripe. The sorgo was about nine-tenths ripe, what few heads there were. There were practically no heads on the kafir. The corn was hauled in and husked yesterday. The fodder yields ranged from 10 to 120 pounds per plot, and the grain from 1 to 28 pounds per plot. The highest yield was on fallow. The ears were all poorly filled nubbins.

Maximum temperature, 86°; minimum, 39°; precipitation, 0.06 inch.

HAYS:

Warm and dry weather prevailed throughout the week except for one day with 0.04 inch precipitation.

Winter wheat needs rain--especially late seeded wheat, some of which was sown in the surface of moist soil. In places the soil dried out around the wheat before it germinated and in other cases the wheat germinated but did not get well established before the soil dried out. This wheat is now suffering from drought. Volunteer wheat, and it is reported some of the earliest seeded wheat, is also suffering from drought.

Sorghum crops and grasses are considerably drier than a week ago. Sorghum crops on the project have been headed where grain developed, and the stover has been harvested. Green stover weights were made, and the stover is being put in station silos today.

Maximum temperature, 89°; minimum, 46°; precipitation, 0.04 inch.

GARDEN CITY:

Rainfall this week amounted to 0.33 inch. This helped the wheat a little, but more moisture is needed, especially in the surface soil. The average depth of moisture over the county on continuous cropped land is 18 inches and that on fallow is 30 inches. The chances for a good crop are much better than they have been for several years. Wind velocities the first part of the week were rather high, and dust occurred on one day.

A survey of part of Finney County made by L. M. Sloan, Superintendent of this station, and A. E. Lowe, Assistant Agronomist, disclosed that out of 36 milo fields examined, 24 were affected by milo disease. Finney milo, a selection of Dwarf Yellow milo, which is resistant to the disease, is the only resistant milo now available to farmers, but the station has resistant selections of nearly all the other adapted varieties, and these will no doubt be available in the near future.

Maximum temperature, 85°; minimum, 48°; precipitation, 0.33 inch.

TUCUMCARI:

A general rain the first of the week totaled from 4 to 8 inches over parts of eastern New Mexico, but read only 1.28 inches at the station. Total for the 9½ months, 10.98 inches, is some 3½ inches below normal for the period.

Ranges are in fair condition, cattle are in excellent shape, and shipments are heavy. As a result of the recent heavy rains on the plains, wheat pasture should be unusually good in late fall and winter. Row crops over the county are as a rule very poor.

Work consisted of harvesting broomcorn, cowpeas, beans, and grain sorghums and preparing and seeding the late date of wheat.

Maximum temperature, 88°; minimum, 45°; precipitation, 1.28 inches.

DALHART:

The showers which were reported as the preceding weekly report was written were followed on the 9th with heavier showers during the entire 24-hours, and with a good shower the night of the 10th. These showers totaled 2.52 inches, and there was a minimum of run-off. This is the first October rainfall of any amount since 1930. Roadside pools are now filled fairly generally in all directions from the station. No harvesting was done during the week for two reasons: First, except for some forage plots, nothing is ready to harvest; second, the soil is still slick on top where the ground is shaded with crops in rows, and this would make harvesting difficult. Present plans are to harvest the few ripe heads the first of the next week from all plots. The normal frost date is the 18th and usually very little grain gets hard on the standing stalk when moisture is abundant, even though frost does not come then. Soil moisture samples on milo plots shows moisture in the soil on cropped land through 20 inches. Soil samples on winter wheat plots show moisture in the first 6 feet except on late plowing, where the soil moisture has barely penetrated into the fifth foot. Winter wheat and winter rye on early seeding is thick and is showing rank fall growth. The winter rye following cowpeas is just now showing emergence. On hard roadways on the station the rye is now emerging which was planted in September. It now appears that it would be wise to graze the early seeded cover crop, especially on sand accumulation.

Maximum temperature, 80°; minimum, 46°; precipitation, 2.52 inches.

BIG SPRING:

Unusually warm, dry weather has prevailed during the past week; the maximum ranging around 90° each day. What looked like a promising rain, developed into a light shower the first part of the week; only 0.20 of an inch was recorded.

Station work has consisted of picking cotton and heading milo in the rotations and increase fields, gathering bagged heads in the sorghum nursery, and repairing the feed pens.

Maximum temperature, 91°; minimum, 56°; precipitation, 0.20 inch.

LAWTON:

Another warm, sunny week ending October 15 intensified the late summer and fall drought that has prevented the seeding of small grains and dried up the pastures. The 0.45 inch of precipitation on October 10 did not provide enough surface moisture to permit seeding of wheat, oats, and barley plots. Maximum temperatures during the week varied from 82° to 93°.

Dr. H. J. Harper, Acting Head of the Agronomy Department, A & M College, Stillwater, Okla. was a station visitor on the 12th.

BELLE FOURCHE:

Abnormally mild, dry weather prevailed throughout most of the week, but the last two days were unsettled, cool, and windy. No measurable amount of rain was received and only 0.01 inch precipitation has been recorded since September 13. A killing frost has not been received. This is the latest fall of record, the previous latest date of the first killing frost in the fall being October 13.

A. L. Baker, U. S. Range Livestock Station, Miles City, Mont. and J. W. Wilson, South Dakota Experiment Station, Brookings, visited the station to assist in grading 1,460 lambs included in feeding experiments.

Maximum temperature, 85°; minimum, 35°; precipitation, trace.

WOODWARD:

The temperature has lowered some for the day period but remains approximately the same for the nights. Two small showers were received to total 0.19 inch.

A large percentage (75-80) of the wheat in the Woodward section has been seeded. Wheat seeded early in September has considerable growth, considering the weather. The plants wilt and fall over on the ground during the heat of the day and straighten up again at night. Wheat planted late is subsisting but making little growth. The cutworm, false wireworm, and white grub are damaging wheat considerably in scattered areas to the north, west, and southwest as reported by the state entomologist and county agent.

Some budding has been done on peaches, plums, jujubes, apricots, cherries, and lilacs.

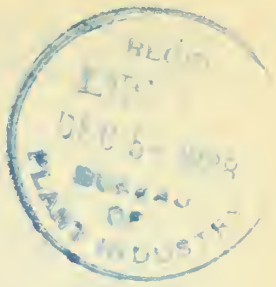
Plots to be seeded without preparation and plots to be cultivated just before seeding were mowed and weeds removed to permit drilling.

Seeding field wheat, harvesting field kafir, cutting milo stalks on plots and in field, picking tomatoes, and budding jujubes constitutes the majority of the field work.

Maximum temperature, 90°; minimum, 50°; precipitation, 0.19 inch.

NOTE:

The station reports of this division will be made and issued monthly during the months of November, December, January, February, and March. The last report in October 1938 should cover October 31. Following the report for April 1 - 8, 1939, the weekly issue will be resumed.



WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

GPO 123668

OCT 22 1938

Not for publication without
prior consent of this division.

REPORT FOR THE WEEK ENDING OCTOBER 22, 1938

HAVRE:

More or less cloudy weather attended by frequent rain and some snow characterized the past week. Snow fall was quite heavy at higher elevations, but only a trace was recorded at the station. Corn stover was hauled from the experimental field. Potato rotations were harvested, and routine grass and winter wheat plantings were made. A 15 acre field of crested wheatgrass was sown on abandoned land adjoining the plots as an initial step in a project cooperative with the State College entomology department for studying the effect of regrassing upon the prevalence of Says plant bug.

Construction of 40 individual calf stalls for experimental winter feeding in the beef cattle barn was begun by W.P.A.

Maximum temperature, 69°; minimum, 28°; precipitation, 0.64 inch.

HUNTLEY:

Rain and snow early in the week brought much-needed moisture to fall-sown grains, grasses, and alfalfa. Precipitation amounting to more than an inch, falling over a period of 3 days, soaked down to the depth of seeding on most fields, and much of the grain sown in stubble land is now sprouting. Grain already emerged has taken on a brighter look and has renewed growth.

The first frost of the season occurred on the 18th, 7 days later than the previous record for delayed frost. The temperature on the date of the first frost was 32° and only the most tender plants were killed. Lower temperatures later in the week killed all but the hardiest types of vegetation.

Field work has consisted of hauling manure and harrowing down fall-plowed land. The moisture of the last week soaked up the clods to the extent that they could be easily broken down and leveled off with the harrow.

Maximum temperature, 65°; minimum, 28°; precipitation, 1.02 inches.

JUDITH BASIN:

The storm of last week end which extended over Central Montana continued until Tuesday A. M. bringing a 14-inch blanket of snow. The station recorded 1.84 inches precipitation. Slowly rising temperatures are allowing the melting snow to go into the ground. There is yet about 6 inches of snow on the level. Considerable damage was done to trees on the station, Chinese elms suffering most.

The heavy covering of snow together with the storm made it necessary to remove all cattle from the pasture trial and close this seasons test. The crested wheatgrass lot were on pasture about 6 months this season compared to 5-1/3 months for both bromegrass and native grass lots. This years results will be very interesting, and it is hoped a preliminary report of the 5-year pasture test can be published in the near future.

Maximum temperature, 48°; minimum, 10°; precipitation, 1.57 inches.

SHERIDAN:

Following light rain the first of the week, with cool cloudy weather afterwards, the longest period yet recorded on the station free of a killing frost was brought to a close by a heavy freeze lasting for about 13 hours through the evening of the 18th and the morning of the 19th. No killing of any vegetation could be detected from a temperature of 30°F the morning before.

Grain sorghum varieties were shocked under shelter to be left until dry enough to thresh. Soybeans were threshed, and hauling of bulk sorgo is now in progress.

Maximum temperature, 71°; minimum, 18°; precipitation, 0.36 inch.

MANDAN:

Agronomy - Temperatures during the week were much lower, with cloudiness and light precipitation. A trace of snow fell on the morning of the 18th. The first real hard freeze of the season occurred on the morning of the 19th with a minimum of 29° for several hours.

Maximum temperature, 67°; minimum, 21°; precipitation, 0.19 inch.

Cooperative Grazing Experiment - The experiment was closed for the season on October 13. The gains of the yearling steers were lower this year than those used in 1937. The flies and mosquitoes were very bad during most of the season and likely cut down on gains.

The following table shows the gains of the cattle on the various pastures for the first half of October and for the grazing season of 145 days. The gains are about 50 pounds per head less than those obtained in 1937 with the same type of steers.

The steers of all pastures had plenty of feed in their pastures during the season. The gains in the smaller pastures are less than those in the larger ones. Usually the steers in the smaller pastures make as good gains as those in the larger ones, when they have plenty to eat.

For some reason the steers in the 50-acre pasture were much more nervous and excitable than those of other pastures.

Pasture (acres)		Number steers	Gain per head (lbs) Oct., 15 days	145 days
100		10	25.0	256.0
70		10	16.0	251.0
50		10	-9.0	207.0
30		10	9.5	220.5
70	(Rotation)	14	5.0	225.7
7	Crested wheat 1/	4	20.0	220.0
12.5	Crested wheat 2/	6	23.3	220.8
9.3	(Reserve)	11	7.3	225.0

1/ On 12.5-acre pasture after July.

2/ Had access to 15-acre native pasture after August 15. Grazed new growth of crested wheatgrass most of time after September 15.

Horticulture - Due to the mild weather the pulling of nursery stock has been necessarily delayed. It is hoped the frost of last night will be effective in checking growth, so the work can be done next week.

With the digging of rutabagas, beets, and parsnips, all vegetable crops have been harvested in the Acre Garden project. The yields are as follows:

Beets, early	488 lb	Onions	607 lb
Beets, fall	119 lb	Parsnip	285 lb
Beans, wax	168 qt	Peas	228 qt
Beans, navy	130 qt	Potatoes	747 lb
Carrots	125 lb	Pumpkin	962 lb
Cauliflower	97 lb	Pepper	12 lb
Cucumbers	120 lb	Squash, summer	41 lb
Cabbage	632 lb	Squash, winter	780 lb
Eggplant	61 lb	Sweetcorn	805 ears
Melon, water	471 lb	Tomatoes	447 lb
Melon, musk	40 lb		

Arboriculture - Pulling of nursery tree stock has been in progress during the week. Leaves are still present on all species, but the heavy frost of last night will probably check all growth.

Visitors included Dr. A. D. Stoesz, Regional Nurseryman, W. W. Austin and John Dillon, all of Region No. 9, Soil Conservation Service; A. D. Slavin, Regional Nurseryman, Region No. 5; Dr. M. M. Hoover, Washington, D. C.; and Mr. Carl Roberts (Smith-Hughes Instructor) and 10 farmers from Rugby, N. Dakota.

BELLE FOURCHE:

Strong winds prevailed nearly every day, and the first half of the week was cold, cloudy, and damp. Small amounts of precipitation were recorded on 4 days, and light snow was received on October 17. The sky cleared late in the afternoon of October 18, and the first killing frost of the fall occurred during the night. The temperature remained below 28° about 9 hours, the minimum being 25°. A much heavier freeze occurred October 22.

The frost-free period was 163 days in length, which is 25 days longer than the average and next to the longest of record.

Only 0.08 inch precipitation has been received in October to date, and fall grain has not germinated on any cultural treatment, including summer fallow. Practically no plant growth has taken place during the past 2 months, owing to the dry condition of the soil.

Maximum temperature, 70°; minimum, 17°; precipitation, 0.07 inch.

ARCHER:

The first severe frost of the season occurred the morning of October 19 when the temperature dropped to 17°. A light snow covered most of the green vegetation, therefore the damage was not so great as was expected. Sudan grass was frozen, but the volunteer grains are furnishing excellent pasture.

Station activities consisted of husking corn from the rotation plots. The halfway mark in this work will be reached to-day.

R. E. Uhland, W. F. Peel, A. D. Ellison, Dick Lewallen, and Edgar Reeves of the Soil Conservation Service and J. L. Gibbs and Paul W. Cramer, engineers of the International Harvester Company, were station visitors.

Maximum temperature, 67°; minimum, 17°; precipitation, 0.07 inch.

NORTH PLATTE:

No precipitation was recorded, making a total of five consecutive weeks with only a trace of precipitation. The warm, fall weather was broken on Tuesday night when the first frost was recorded. The frost-free period this year totaled 167 days, which is 16 days more than the average. A cold north wind brought a light snow flurry this morning.

The work this week consisted of shucking the cooperative irrigated corn hybrids and the dry land hybrids. The yields are rather disappointing but will give some indication of the relative merits of some of the hybrids. The white corn growing in the D.L.A. plots exceeded nearly all dry land hybrids.

Maximum temperature, 89°; minimum, 28°; precipitation, trace.

AKRON:

First fall frost occurred last Monday night with a temperature of 26°. Weather has ranged much cooler since.

Harvesting of potatoes and the threshing of grain and forage sorghums has occupied the attention of the field force. One plot of potatoes on fallow along the highway averaged 27.3 bushels per acre. The midsummer and fall was so dry that it was never necessary to cultivate these potatoes, the few straggling pig weeds were pulled. Three plots on stubble land averaged 8.9 bushels per acre. It was such a season for row crops as to nearly pinch off the yield of the grain sorghums on preparations other than fallow. Two plots of Improved Coes on fall plowed stubble land averaged 5.4 bushels of grain and 525 pounds of stover per acre. Three plots of corn on similar preparation averaged 0.5 bushel of grain and 643 pounds of stover per acre. The plot of Improved Coes on fallow along the highway, very thin, but probably an advantage this year, variously estimated at 15 to 18 bushels per acre yielded 22.7 bushels of grain and 1,880 pounds of stover per acre. Early Kalo on fallow in the Variety Experiment yielded well. A much thinner stand of Improved Coes yielded less. There was no stand of the Highland in this experiment. Most of the very late varieties matured this year and, as was natural to expect, produced good yields. Kalo ripened practically as soon as the Early Kalo and equally as early as the Improved Coes in the experiment for direct comparison.

Maximum temperature, 87°; minimum, 26°; precipitation, trace.

COLBY:

The weather is still dry and pleasant, but considerably cooler. Several days were very windy with some soil blowing on unprotected fields. The first killing frost on the fall occurred on the morning of the 20th. Practically no damage was done, as all crops were out of danger. Most of the sorghums had been harvested. Winter wheat is needing rain badly. It does not seem to be able to get firmly rooted. On most fields it pulls up so easily that farmers have found it necessary to keep the stock off. On fallow fields it continues to make fair growth.

Maximum temperature, 91°; minimum, 28°; precipitation, none.

HAYS:

The weather continues clear and dry, but temperatures have been lower except for one high maximum the first of the week. The condition of the winter wheat has not changed since the last report. It needs rain. Work during the week consisted largely of soil moisture determinations. The weather has been ideal for all kinds of fall work.

The first killing frost occurred October 20. The air was really too dry for frost, but tomato vines were killed and growth of most of the annual crops was stopped.

Maximum temperature, 93°; minimum, 32°; precipitation, none.

GARDEN CITY:

No rainfall was recorded this week. Temperatures have been rather low the past four days, and on one night a minimum of 29° occurred. This stopped all sorghum growth. No grain was produced on D.L.A. plots, except a small amount of milo planted in wide rows and some feterita.

Field work consisted of harvesting cowpeas and taking soil moisture samples.

Maximum temperature, 87°; minimum, 29°; precipitation, none.

TUCUMCARI:

One of the most welcome frosts on record occurred the morning of October 20, when a minimum of 31° definitely killed growing crops. Prior to this, hesitancy existed as to whether harvesting of light, poor crops should be pursued or if they should be left in the hopes of continued warm weather and late season growth. Since frost, every effort has been made to rush all harvesting.

Frost occurred without warning, following nearly September temperatures. No temperature below 45° was recorded prior to October 20.

All rotation kafir and sorgo, forage sorghum variety plots, and many grain sorghum variety plots have been cut. Binding of increase drilled kafir, sorgo, and Sudan grass should be completed tonight. There will remain about one-half day binding of late plots. Increase milo and a number of rotation and late date plots have not been headed.

Cotton plants are very small but well loaded with bolls which are opening fast. Cowpea yields were consistently low. Peanuts promise average yields. Corn produced only a light crop of fodder. Sorghums are low in yield, both drought and bird attack proving serious. The only plot on the station classed as a complete failure was a rabbit-attacked Tepary bean plot.

Periods of high wind have injured newly-emerged wheat to some extent, but over much of the wheat growing portion of the county the majority of fields are making good growth, with indications of good grazing prospects.

The advance guard of Reclamation Service engineers has arrived in Tucumcari to begin work on the Arch Hurley Conservancy District irrigation project, which it is expected will eventually irrigate some 40,000 acres of land within a 12-mile radius of Tucumcari.

Maximum temperature, 85°; minimum, 31°; precipitation, none.

DALHART:

Typical fall temperatures with the mean near the average were recorded during the week. The first fall frost was received the morning of the 20th. Only slight nipping of the leaves has been noticed. Work during the week was largely seasonal and consisted principally of harvesting mature heads of sorghums on rotation kafir and milo plots and heading sorghum varieties on fallow. Some bare fallow plots were cultivated, and the regular fall moisture samples were taken. In contrast to last year when the late seeded plots were the best, it now seems that the late planted sorghum plots will not mature sufficient grain for a yield.

One plot of Extra Early Sumac has a proportionately large area which is definitely showing milo-disease. This is the first plot of any sorgo which has shown susceptibility to this disease at this station.

Maximum temperature, 79°; minimum, 32°; precipitation, none.

WOODWARD:

The weather continues dry and cooler with the exception of 0.01 inch of precipitation received on Wednesday. No killing frost has been recorded, although a light frost was noted on October 20. The temperature remained in the forties most of the day with 50° for the maximum. A few of the more sensitive tomato plants were killed and leaves on sorghums have dead spots caused by frost.

Soil moisture samples taken on M. L. kafir plots 1 and 2 indicate that the plants have used about all the available moisture. The plants are firing badly, but they are going to pull enough moisture to mature small heads with fair grain.

Owing to the prevailing high temperatures, wheat was not seeded in the fore part of September when moisture conditions were favorable; and when the temperatures decreased the surface moisture was too low to assure good germination. Many of the farmers to the east, north, and south have and are seeding in a dry seedbed with the hopes of getting moisture soon. Providing moisture is received soon, chances for the plants to make enough growth to keep down wind erosion is poor, which means this area is entering the winter in a serious condition.

Cuttings from shrubs which would be killed back to the ground during the winter are being put in the greenhouse.

Harvesting of jujubes was completed for the season.

James E. Smith, G. P. Powers, and J. P. Woods of the Soil Conservation Service at Amarillo, are making headquarters at the station while combining pasture grass seeds over the area near-by.

M. D. Helfgott, Civil Aeronautics Authoritarian, temporarily located at Shattuck, Oklahoma, was a station visitor Thursday.

Maximum temperature, 88°; minimum, 34°; precipitation, 0.01 inch.

NOTE:

The station reports of this division will be made and issued monthly during the months of November, December, January, February, and March. The last report in October 1938 should cover October 31. Following the report for April 1 - 8, 1939, the weekly issue will be resumed.

WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

GPO 123668

OCT 31 1938

Not for publication without
prior consent of this division.

REPORT FOR THE PERIOD OCTOBER 23 - 31, 1938

HAVRE:

Clear skies and temperatures considerably above normal prevailed. Raking and burning weeds in the experimental field was started, and an area was marked off and plowed for stripping in connection with a project to determine the effect of artificial erosion. Considerable crested wheatgrass was sown near the lake in field G on the basis of the performance of trial plantings made there last fall.

Graveling of station roads by W.P.A. is now in progress.

Maximum temperature, 75°; minimum, 23°; precipitation, none.

JUDITH BASIN:

By the morning of the 24th practically all snow from the storm of a week ago had melted, and there was practically no run-off except on steep slopes. No precipitation was received until Sunday and Monday when there was a fine mist and light rain.

As elsewhere in the Plains this year, the frost free season of 152 days is the highest ever recorded at the Station.

Plans for extensive fall seedings of grasses have been postponed a number of times due to unfavorable conditions. Weather permitting, some seedings should be made this coming week.

The bunt nursery was seeded and also some extra material for a winter hardiness study.

Tests with an auger revealed good moisture to a depth of 30 inches on fallow, 26 inches on barley stubble, and 20 inches on winter wheat stubble. We are approaching winter with the best moisture conditions in a number of years.

Crested wheatgrass has begun to respond to the available moisture, and on the 28th it was noted that many plants have made a recent growth of about 2 inches.

Visitors at the Station include Director McKee, H. G. Bolster, and L. F. Geisiker all of the State College, Bozeman, Montana.

Maximum temperature, 72°; minimum, 25°; precipitation, 0.02 inch.

October wettest on record with 2.10 inches precipitation.

HUNTLEY:

Good growing weather for winter grains has prevailed throughout the period. Although minimum temperatures have been around the freezing mark, daytime temperatures have usually been high enough to prevent the soil from cooling off very rapidly. Winter wheat reported as sprouting a week ago has come up nicely and greatly improved the appearance of the plots, although stands are not yet thick enough. A survey of farm plantings showed winter wheat sown with a furrow drill to have much more uniform stands than that seeded with a surface drill.

Something over 400 lambs have been received at the station for winter feeding trials to be conducted in cooperation with the Montana Experiment Station. Home-grown grains and forage crops together with sugar beet by-products will make up the rations.

Field work on the plots during the period consisted of clean-up operations, harrowing fall-plowed land, and soil sampling.

Maximum temperature, 75°; minimum, 28°; precipitation, 0.16 inch.

SHERIDAN:

Mostly fair and warm weather prevailed. The last two days were cloudy but with only a trace of moisture. Conditions here now are about as dry as has been noted at any time at this season of the year. Wheat sown early in October has not sprouted, except for a little on fallow that reached moisture when it was sown.

Station work consisted mainly in hauling the remainder of the sorghum and corn from bulk fields and shredding some, seeding about 4 acres of crested wheatgrass in order to take one field out of cultivation until needed again for grain, taking growth measurements of the 1931 shelterbelt, cleaning crested wheatgrass seed, and listing the MCF plots.

The month as a whole was one of the most favorable noted here for cleaning up fall work resulting from the year's crops, but was decidedly unfavorable for making any preparations for next year's crop. Temperatures ranged about 5° above the average for the month, the 3rd highest recorded here for October. Precipitation was 0.36 inch, the 3rd lowest recorded for the month.

Maximum temperature, 77°; minimum, 18°; precipitation, trace.

DICKINSON:

The month of October was one of the mildest of record. Mean temperature of 48.7° was 5° above normal. A maximum temperature of 88° was registered on the 4th and maxima of 78° and 72° during the last week.

Precipitation of 0.74 inch was slightly below normal but the most in any October since 1932.

From the 15th to 19th 0.42 inch of rain and a little snow wet the soil about 3 inches and was sufficient to cause germination of winter wheat and rye seeded earlier in dry soil. Grass greened only slightly, except in low areas where good growth continued green till the end of the month.

A few grasses were seeded in nursery rows.

Leaves remained on trees later than usual this fall. Ash leaves persisted until into October, whereas in some seasons these leaves are gone in early September. A few leaves still remain on apple and crab where these are in low situations. All trees, however, have become well matured to go into the winter.

Maximum temperature, 78°; minimum, 16°; precipitation, none.

MANDAN:

Agronomy - Weather during the past week was mild, with one or two warm days for this time of year. The last two days have been cloudy and cooler.

Fallow plots were given a late duckfooting in preparation for winter.

Maximum temperature, 79°; minimum, 27°; precipitation, none.

Cooperative Grazing Experiment - The steers used in the grazing experiment during the summer were returned on the 31st. They showed some shrinkage since the experiment was closed.

Horticulture - Tender bulbs from the semiformal beds on the grounds were dug and stored. Tulips, regal lilies, hyacinths, and several varieties of narcissus were planted in various beds and borders. With the scanty watering available during an average season tulips especially, can only be relied on for about two seasons and must be replenished with a new supply.

Arboriculture - Pulling of tree nursery stock was finished, and heeling-in will be completed today. Nursery fields still remain to be cleaned and either plowed or roughed-up over winter.

Visitors for the week included District Supervisor U. J. Downey, Farm Security Administration, and 14 of his Supervisors. These officials visited the station on the 25th, seeking information on range and grass work in connection with the rehabilitation of the range in western North Dakota.

BELLE FOURCHE:

Fair, warm weather prevailed most of the period, but a few days were cloudy, unsettled, and damp. No precipitation in measureable amounts was received. Strong winds were of frequent occurrence during the daytime, but no movement of soil took place.

The past month was both the driest and warmest October in the 30 years of record. Only 0.08 inch precipitation was received during the month, as compared with an average of 1.17 inches. The total precipitation for the year to date is 8.96 inches, which is 6 inches less than the 30-year average for the 10-month period. The mean temperature for October was 54°. This is 8° greater than the average mean, and 3° in excess of the previous record high mean temperature for the month.

None of the fall grain seeded early in October has germinated, and crop prospects on dry land are the poorest in many years. In more favorable localities where sufficient rain was received in September to bring up fall grain, no available moisture remains in the soil, and the strong winds and continued dry weather have caused serious deterioration in the condition of the crop.

Maximum temperature, 79°; minimum, 30°; precipitation, trace.

ARCHER:

The weather during the last nine days of October was clear and mild. No precipitation was recorded. The total precipitation during October was 0.39 inch. However, soil moisture is sufficient for this time of the year. Volunteer growth of barley, oats, and spring wheat hides the stubble of these crops. In most instances winter cereal growth is sufficient to cover the furrow drill ridges. Late spring fallow has produced a ranker growth than early spring fallow. This is a condition reverse to the general rule. The last of the trees, Chinese elm and Russian olives, are losing their leaves.

The clear mild weather was favorable for the completion of corn husking and the plowing of the fall-plowed corn plots.

Director W. L. Quayle of the University of Wyoming and Wayne W. Austin of the Soil Conservation Service visited the station during the week.

Maximum temperature, 69°; minimum, 15°; precipitation, none.

NORTH PLATTE:

Freezing temperatures occurred every night during the week, and no precipitation was recorded. This is the sixth consecutive week with no precipitation.

The winter wheat on cropped land is beginning to show the need for moisture. The growth of wheat on the plots is enough to prevent soil blowing during the winter months but not enough to have reduced the soil moisture any lower than was necessary to become established.

September, according to the 63 years' record of the Weather Bureau, was the wettest September on record, and October will be among the driest Octobers.

The work of the week consisted of shucking corn from the basin listing experimental plots and threshing the bulk field of Early Kalo which averaged 29 bushels per acre. This sorghum was grown on fallowed land. There are other fields of Early Kalo grown on cropped land in this area which have yielded nearly as well.

Several Smith-Hughes teachers of this district gathered at the station on Friday and discussed current livestock and crop problems with the station staff.

Mr. F. L. Duley of the Soil Conservation Service spent a few days at the station laying out a few plots on which he plans to study different soil treatments.

Maximum temperature, 81°; minimum, 15°; precipitation, none.

AKRON:

The rainless period continued to the end of the month. October produced 0.03 inch of precipitation. The first five months of the year built up an excess of 2.82 inches, and the last five months a deficit of 4.58 inches. The total deficit to November 1 is 1.76 inches.

The threshing of the sorghums was completed. The approximate 9 acres of very thin Highland kafir across the railroad produced 73.6 bushels of grain. The plants left standing began going down by the end of the month, about two weeks later than last year. It seems that this variety is reasonably safe to stand until the grain is dry enough to bin if only the heads are clipped. However it cannot be rated as a combine variety.

Mr. O. J. Webster of the North Platte station called Sunday the 30th. Dr. Hurley Fellows arrived this past Monday to resume his foot rot studies of cereal grains.

Maximum temperature, 76°; minimum, 15°; precipitation, none.

COLBY:

The weather continues dry, exceptionally warm, and pleasant. The wind velocities have been moderately high, but there has been no soil blowing lately. Only 0.06 inch of precipitation fell during the month, making it the driest October since this station was established. It was also the hottest October. The mean temperature was 60°. The wind velocity was considerably above the average. The first killing frost occurred on the morning of the 20th. There was only one hard freeze during the month. That was on the morning of the 23rd when the temperature fell to 14°.

Practically all sorghum crops ripened nicely, and the shocked fodder is curing rapidly. Wheat is in a precarious condition. It is making a fair growth on summer fallow, but most of that on crop land came up to poor stands and is beginning to dry up. Nearly all the volunteer is practically dried up. It came up very thick where the ground was worked and where there was sufficient moisture. The surface soil has been so dry even on fallow that much of the wheat has not been able to get well rooted.

The sorghums from the plots were hauled in and threshed, except the milo which had been headed by hand. The milo heads will be threshed this week if possible. The feterita yielded from 7.8 to 10.3 bushels to the acre. Plot M.C. Kafir C yielded 2.7 bushels. There was no grain to speak of on the other kafir plots. The Sumac sorgo yielded from 0.7 to 4.5 bushels.

Maximum temperature, 81°; minimum, 14°; precipitation, none.
Precipitation for October, 0.06 inch; 51-year average, 1.05 inches.
Precipitation, January - October, 18.24; 51-year average, 16.75.

HAYS:

The weather has been dry and breezy about half the time. A drop in temperature to 20° on the night of the 22nd killed all annual plants that escaped the freeze on the night of October 19. The deciduous trees are rapidly shedding their leaves without the fall coloration that sometimes occurs.

The total precipitation for October is 0.04 inch. This is the only precipitation since September 12. This dry period, which has been warm and breezy, especially the first half of October, has been severe on the winter wheat. A considerable amount of the medium and late seeded wheat has not germinated and a small percentage of the portion that did germinate has perished. Some of the early seeded

wheat is also suffering severely. The prospects as a whole do not look any too good at this time. However, early moisture could completely change the picture. If the stand is to survive the winter it must have rain before freezing weather.

Work during the week consisted of thrashing sorghum crops, and late tillage work including subsoiling, 14-inch plowing, and dynamiting.

Maximum temperature, 86°; minimum, 20°; precipitation, none.

GARDEN CITY:

Only 0.01 inch of rainfall was recorded during this period, making the total for the month of October 0.34 inch. The normal is 1.30 inches. The total thus far this year is 15.02 inches, the normal is 16.22 inches.

Field work consisted of binding the kafir and taking soil moisture samples.

The wheat in this section is in fair condition, but a good rain would help considerably.

Station visitors were R. I. Throckmorton, Head of Agronomy Department, K. S. C., O. S. Fisher, Extension Agronomist, Washington, D. C., A. B. Erhart, Superintendent of Southwest Experimental Fields, J. E. Smith, Regional Nurseryman, Soil Conservation Service, Amarillo, Texas, and the Vocational Agriculture class from Holcomb, Kansas.

Maximum temperature, 85°; minimum, 22°; precipitation, 0.01 inch.

TUCUMCARI:

The month of October was unusually warm, generally clear, and favorable for crop harvest, and was normal in precipitation and wind movement. Total precipitation for the year to date, 10.98 inches, is some 4 inches below normal for the 10 month period.

A killing frost occurred the morning of October 20; prior to that date no temperature below 45° had been recorded. The lowest since that date has been 36°. October mean temperature was 62°, compared with average of 59°.

Station crop harvest has progressed without delay the past two weeks. Plot sorghums have been harvested, and increase milo is now being headed. Cotton has been picked once and in some places twice. Peanuts are the only crop unharvested -- upper leaves were frost killed, but it is thought likely that maturity of nuts is continuing.

Hauling and weighing of corn, broomcorn, and sorghum stover will take place as the various crops dry sufficiently. Threshing of plots and increase crops has not started, but with favorable weather can begin in about a week. Fall plowing has not been performed.

All station yields promise to be low: rotation milo and kafir will no doubt average less than 10 bushels to the acre, many plots materially less.

Annual precipitation during the period 1934-37, 4 years, averaged 12.21 inches, compared with 33-year average of 16.41 inches. Average growing season precipitation during the past five years, 1934-38, was 9.51 inches, compared with 33-year growing season average of 12.32 inches. Total precipitation for the 12-months ending October 31, was 11.63 inches.

DALHART:

The last 9 days of October continued mild. All plant growth is still alive, with only the more succulent leaves of the sorghums showing frost nipping from the first frost on the morning of the 20th. The sorghums have really not matured any since the light frost. There is not much grain on them to mature, so that grain yields will be small but just enough on the rotations to cause the usual amount of threshing. The past few days have been devoted to binding the stover and immature heads. Two more days will complete this work. Winter wheat and rye have made luxuriant growth on the early planting. The late seeded rye is small but should get rooted well enough to stand the usual winter punishment. Late seeded sorghums made a good quality of forage but no grain. Of those tried for late planting the Early Kalo shows the greatest adaptability, feterita is more certain for grain.

The maximum temperature for October was 86° on the 1st; the minimum was 32° on the 20th; the total precipitation was 2.52 inches. October mean temperature of 59° was the third highest for this month in 31 years; the mean temperatures for each of the first 10 months of this year were above normal.

BIG SPRING: (Report for period October 16 - 31, 1938)

Local showers during the past two weeks, 0.54 inch on October 20, and 0.32 on the twenty ninth partially broke the dry spell which has prevailed since July. The two showers moistened the soil deep enough to bring up wheat that was dry planted, but it will not make much growth without additional moisture.

In some of the low spots in the county the farmers reported temperatures last week low enough to kill vegetation, but the minimum at the Station has not dropped below 36.

Station work during the past two weeks has consisted of heading increase milo and picking cotton; some few late maturing sorghum plots were also headed.

Mr. W. H. Black of the Bureau of Animal Industry and J. M. Jones of the Texas Station visited here October 22.

Maximum temperature, 87°; minimum, 36°; precipitation, 0.86 inch.

LAWTON: (Report for period October 16 - 31, 1938)

No change in weather conditions with respect to drought has occurred within the past two weeks. The October precipitation of 0.47 inch was 2.41 inches below the monthly average. The deficiency for the 5 months period June 1 to October 31 amounts to 9 inches. July, August, September and October rains consisted entirely of showers. The maximum and minimum temperatures in October varied from 58 to 100 and from 33 to 66 respectively, and the monthly mean was above normal.

Rotation plot seedings of wheat and barley were made on dry seed beds on October 25. Variety tests of wheat, oats, and barley, and winter hardiness nurseries of oats and barley were seeded under similar conditions October 24 and 25.

Cotton picking on all of the experimental projects has been completed. Most of the yields, although low, were slightly better than in 1937. But little of the 1938 crop in the southwestern part of the state remains to be picked, and the ginning season will close earlier than for several years.

A general rain over the southwestern part of Oklahoma measured 1.78 inches on Nov. 2. It fell gently and with but little run-off. This, the first rain of any consequence since June 25, will provide emergence of fall seeded grains and make possible a good job of fall and winter tillage.

WOODWARD:

No precipitation of any consequence occurred during the month. The total of four showers amounted to 0.20 inch, making this the third lowest October on record at this station. A dust-laden south wind of high velocity prevailed all day October 31. Very little local soil movement occurred except in roadways. A brisk wind, moist atmosphere, and cloudy skies prevail this morning giving the best prospects for rain in some time. The first killing frost occurred on October 23, terminating a frost free period of 197 days. This may be compared with the average frost free interval of 198 days extending from April 11 to October 27.

All preparations for seeding wheat have been completed except the actual seeding operation which is being delayed because of lack of moisture. Wheat seeded earlier in the fall appears from a distance to have emerged satisfactorily, but closer observation reveals that stands as a whole are rather thin. Most of the plants have not yet produced secondary roots.

Field work included the heading of kafir, milo, and sorgo on plots; binding kafir and sorgo on plots; heading sorghums in general fields; cutting sorghum stalks; staking plots for drilling wheat; taking soil moisture samples; cleaning tree seedbeds; and labeling vineyard.

Visitors included P. V. Cordon of the Division of Forage Crops and Diseases, B. F. Barnes of the Dalhart Station, R. I. Throckmorton of the Kansas State College, and O. S. Fisher of the Extension Service.

Maximum temperature, 86°; minimum, 24°; precipitation, none.

PENDLETON:

Our rotation and tillage plots were seeded last week and should emerge very soon. Wheat sown three weeks ago is up with fine stands. It is a pleasure to look out on the fields and see green wheat, a condition that we have not had in a long period of years. Most years emergence has taken place during the winter months. Rainfall during October has totaled 1.00 inch.

HAVRE: (Report for week ending November 5, 1938)

Clear, warm weather early in the week was followed by lower temperatures and light precipitation. Raking and burning weeds in the experimental field has been practically completed. Fanning grain and taking test weights in the seedhouse were continued, and compilation of annual reports begun. Other activities included hauling gravel on station roads, conditioning the water system for cold weather, and repairing the livestock physical plant preparatory to winter feeding work.

E. G. Davis and F. D. Butcher of the Entomological Laboratory, Bozeman, were station visitors.

Maximum temperature, 73°; minimum, 18°; precipitation, 0.05 inch.